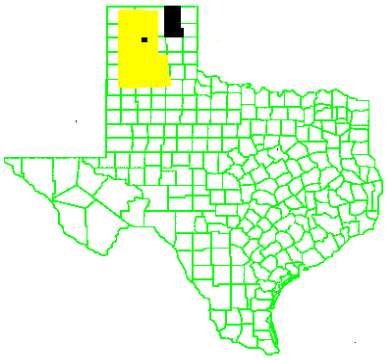
City of Perryton Water Well # 2 Texas

EPA ID# TX0001399435



EPA Region 6
Congressional
District 19
Ochiltree County

Updated: April 2000

Site Description

Location: The City of Perryton Well No. 2 site is located within the City of Perryton in the extreme northern most part of theTexas panhandle in Ochiltree County.

Population: The City of Perryton has a population of approximately 7,758 people.

Setting: Well No. 2 is located on a 1.7 acre maintenance yard used by the City of Perryton Utility Department. The maintenance yard is located near the northwest corner of Amherst Street and Santa Fe Ave.

Well No.2 is a public drinking water supply well contaminated by carbon tetrachloride. The well has been out of service since June of 1989 when the Texas Department of Health originally documented the contamination . The source of contamination addressed is a ground water plume with no identified source. The source of the carbon tetrachloride contamination is unknown and the area of contamination remains widely undefined.

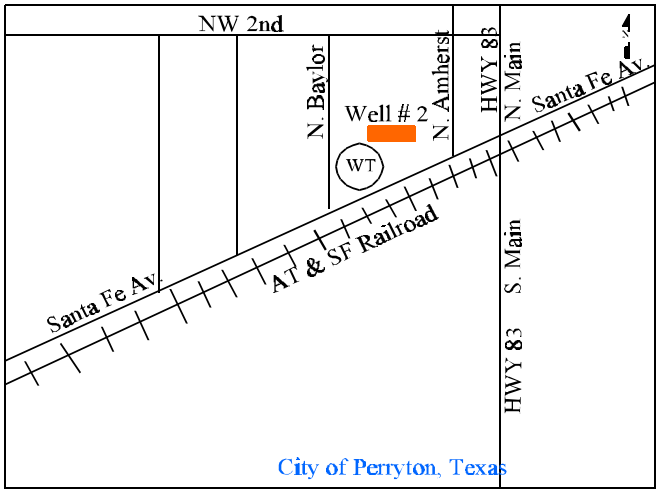
Hydrology: The site is located on the Ogallala aquifer, which is the principal source of drinking water for the City of Perryton. The public water supply system consists of 11 wells completed in the Ogallala aquifer. The main supply sytem for the city is divided into a northern supply system consisting of Well nos. 1 and 2, and a southern supply system consisting of Well nos. 3 - 11. The northern supply system serves approximately 1,140 people. The southern supply system serves 6,500 people. The linkage between the two systems is provided by a 6-inch water main but is inadequate to meet the demand placed on the northern supply system. Well No. 2 has a total depth of 420 feet and a static water level of 248 feet.

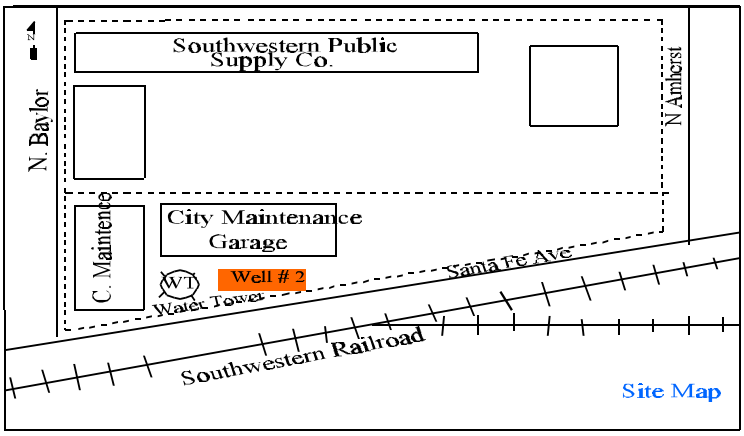
Wastes and Volumes

Principal Pollutants: Carbon tetrachloride: 40.5 ug/l; Nitrate: 16.6 mg/l. Other contaminants include the herbicides Atrazine (5.47 ：g/l) and Propzine (5.74 ：g/l). Lead was also detected at concentrations < 10 ：g/l.

Volume: The extent of contamination is unknown but has not affected the other 10 municipal supply wells.

Site Map and Diagram





Site Assessment and Ranking

NPL LISTING HISTORY
Site HRS Score: 50
Proposed Date: 9/29/98
Final Date: 2/18/99
NPL Update: No. 26

The Remediation Process

Site History:

- Water samples analyzed in 1989 by the Texas Department of Health detected carbon tetrachloride and chloroform in Well No. 2. The well was taken out of service at that time.
- In a September 1990 report, the City of Perryton identified the Perryton Equity Exchange as the most likely source of the carbon tetrachloride contamination. The Perryton Equity Exchange was a grain elevator storage facility that used carbon tetrachloride as a grain fumigant.
- An October 1990 assessment by the Texas Department of Health (TDH) concurred that the grain storage facility is the likely source of the carbon tetrachloride contamination. TDH also agreed that the water can be treated and used as a drinking water source.
- In 1991, the Texas Water Commission (predecessor to the Texas Natural Resource Conservation Commission) identified three potential sources of carbon tetrachloride contamination. These possible sources included the Perrtyon Equity Exchange, past storage of carbon tetrachloride by the City of Perryton at the pump house, and a rumored hand-dug well located 600 feet northwest of Well No. 2 located behind a machine shop.
- In November 1996, EPA's Expanded Site Inspection was completed which documented carbon tetrachloride contamination ranging from 35 to 50 ug/l in samples collected from Well No. 2. Other contaminants identified in the samples include the herbicides atrazine and propazine at concentrations below the drinking water standards. Lead was also detected at concentrations ranging from 35 to 60 ug/l.

Health Considerations:

- Carbon tetrachloride is present in the aquifer at concentrations exceeding the MCL of 5 ug/l established under the Safe Drinking Water Act. The ground water contamination poses a risk to the City of Perryton water supply.

Other Environmental Risks:

- There are no other known exposure pathways associated with the ground water contamination.

Record of Decision

Interim Record of Decision Signed: 9/29/99

Community Involvement

- Community Involvement Plan:
- Open Houses and Workshops: Open House held on 8/12/99 for the Proposed Plan for interim remedial action.
- Formal Public Meeting: Meeting held on 8/24/99 for the Proposed Plan for interim remedial action.
- Citizens on site mailing list:
- Constituency Interest:
- Site Repository: Perry Memorial Library, 22 S.E. 5th Street, Perryton, TX 7900-3112

Technical Assistance Grant

- Availability Notice:
- Letters of Intent Received:
- Grant Award: None
- Current Status:

Contacts

- **Remedial Project Manager (EPA):** Vincent Malott, 214-665-8313 (6SF-AP)
- **State Contact:** Diane Poteet (TNRCC), 512-239-2502
- **EPA Community Involvement Coordinator:** Nancy Stonebarger, 214-665-6619 (6SF-PO)
- **Attorney (EPA):** Michael Boydston, 214-665-7376
- **State Coordinator (EPA):** Karen Bond, 214-665-6682 (6SF-AP)
- **R6 Ombudsman (EPA):** Arnold Ondarza, 214-665-6790
- **Prime Contractor:** CH2M Hill

Enforcement

- **PRPs Identified:** No PRPs have been identified at this time.

Present Status and Issues

- EPA resampled Well #2 on April 6, 1999. Since lead was detected in only one sampling event in 1996 from Well No. 2, additional samples were collected to evaluate whether the source of the lead is from the aquifer, the well equipment, or a lab error. The existing water supply pump was no longer serviceable and a temporary pump was utilized for this round of sample collection. Samples were collected at 5 intervals during a 100,000 gallon test. Sample analyses detected carbon tetrachloride at concentrations ranging from 38 to 42 ：g/l, while lead concentrations decreased during the test from 9 ：g/l to <2 ：g/l. The herbicides Atrazine and Propazine also decreased during the test from a high of 5.5 ：g/l to < 1 ：g/l. Nitrate was unexpectedly detected at concentrations of 16 - 17 mg/l.
- EPA completed an Engineering Evaluation/Cost Analysis (EE/CA) to determine the appropriate treatment options to return Well No. 2 as a potable water supply and begin removing contaminants from the aquifer.
- TNRCC has resampled the remaining public water supply wells on June 7, 1999, to determine if nitrate has impacted the remaining wells. Sample results from the remaining ten wells had nitrate concentrations ranging from 1.81 mg/L to 5.73 mg/L. These concentrations are below the Maximum Contaminant Level of 10 mg/L established under the Federal Safe Drinking Water Act.
- EPA issued a Proposed Plan for public comment on August 12, 1999, to select an interim remedy for Well No. 2. The public comment period closed on September 13, 1999. An Open House was held at the Perryton City Hall on August 12th and the Public Meeting was held on August 24th.
- EPA signed the Interim Record of Decision on September 29, 1999 selecting an interim remedial action consisting of a treatment system that will remove the carbon tetrachloride from the ground water pumped from Well No.2 and then blend the treated water with water from Well No. 1 to reduce the nitrate concentrations to a target goal of 7 mg/L, which is less than the drinking water standard of 10 mg/L. EPA will begin the Remedial Design for this treatment system with the goal of installing the treatment system by the summer of 2000.
- EPA began the Remedial Investigation field work on November 8, 1999. Seven soil vapor

monitoring wells have been installed. Five wells were installed adjacent to current or former grain silos at the Perryton Equity Exchange, one location adjacent to probable abandoned water well located northeast of the Perryton Water Well #2, and one well adjacent to the Well #2. Sample results indicate the presence of carbon tetrachloride in the soil vapor monitoring wells at the Perryton Equity Exchange at a depth below 120 feet.

- Additional soil vapor monitoring wells are planned near the Perryton Water Well #2.
- The ground water investigation began in December. The installation included 10 ground water monitoring wells to evaluate the horizontal and vertical distribution of contaminants in the Ogallala aquifer. Carbon tetrachloride has been detected to a distance of approximately ½ mile east of the Perryton Well #2.
- Additional ground water monitoring wells are planned to complete the extent of contamination.
- Additional field work is planned to begin in April 2000 to install the remaining soil vapor and ground water monitoring wells.
- EPA is proceeding with the remedial design for the installation of an air stripper to remove carbon tetrachloride from water pumped from Perryton Water Well #2. Construction is expected to begin during the summer of 2000.

Benefits

- Investigation of the ground water contamination will identify the source of contamination, and the extent of ground water contamination and its potential threat to the remaining city water supply wells.
- Remediation of the ground water contamination will allow unrestricted use of the aquifer, a primary source of drinking water for the City of Perryton. Operation of Well No. 2 will reduce the migration of carbon tetrachloride toward the remaining water supply wells, an ovide a potable water supply to the City of Perryton .